

For Release: Wednesday, June 24, 2015

15-1218-PHI

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Occupational Employment and Wages in Virginia Beach-Norfolk-Newport News—May 2014

Workers in the Virginia Beach-Norfolk-Newport News Metropolitan Statistical Area had an average (mean) hourly wage of \$21.40 in May 2014, 6 percent below the nationwide average of \$22.71, according to the U.S. Bureau of Labor Statistics. Sheila Watkins, the Bureau's regional commissioner, noted that, after testing for statistical significance, wages in the local area were significantly lower than their respective national averages in 14 of the 22 major occupational groups, including legal; arts, design, entertainment, sports, and media; and sales and related. Only three groups had hourly wages that were significantly higher than their respective national averages, including production and transportation and material moving. (See [table A](#) and box note at end of release.)

One occupational group—architecture and engineering—was chosen to illustrate the diversity of data available for any of the 22 major occupational categories. Virginia Beach had 21,440 jobs in architecture and engineering, accounting for 2.9 percent of local area employment, significantly larger than the 1.8-percent share nationally. The average hourly wage for this occupational group locally was \$37.32, significantly less than the national wage of \$39.19.

Table A. Occupational employment and wages by major occupational group, United States and the Virginia Beach-Norfolk-Newport News Metropolitan Statistical Area, and measures of statistical significance, May 2014

Major occupational group	Employment share (percent of total)			Average (mean) hourly wage			
	United States	Virginia Beach-Norfolk-Newport News	Significant difference ⁽¹⁾	United States	Virginia Beach-Norfolk-Newport News	Significant difference ⁽¹⁾	Percent difference ⁽²⁾
Total, all occupations.....	100.0%	100.0%		\$22.71	\$21.40	Yes	-6
Management.....	5.0	3.7	Yes	54.08	53.02	Yes	-2
Business and financial operations.....	5.1	5.6	Yes	34.81	33.14	Yes	-5
Computer and mathematical.....	2.8	3.0	No	40.37	37.17	Yes	-8
Architecture and engineering.....	1.8	2.9	Yes	39.19	37.32	Yes	-5
Life, physical, and social science.....	0.8	0.7	No	33.69	33.96	No	1
Community and social service.....	1.4	1.5	No	21.79	21.13	No	-3
Legal.....	0.8	0.6	Yes	48.61	38.70	Yes	-20
Education, training, and library.....	6.2	6.4	No	25.10	24.14	No	-4
Arts, design, entertainment, sports, and media.....	1.3	1.0	Yes	26.82	22.10	Yes	-18
Healthcare practitioners and technical.....	5.8	5.9	No	36.54	33.88	Yes	-7
Healthcare support.....	2.9	2.8	No	13.86	12.94	Yes	-7

Table A. Occupational employment and wages by major occupational group, United States and the Virginia Beach-Norfolk-Newport News Metropolitan Statistical Area, and measures of statistical significance, May 2014
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Major occupational group	Employment share (percent of total)			Average (mean) hourly wage			
	United States	Virginia Beach-Norfolk-Newport News	Significant difference ⁽¹⁾	United States	Virginia Beach-Norfolk-Newport News	Significant difference ⁽¹⁾	Percent difference ⁽²⁾
Protective service.....	2.4	2.7	Yes	21.14	19.23	Yes	-9
Food preparation and serving related.....	9.1	9.9	Yes	10.57	10.77	No	2
Building and grounds cleaning and maintenance..	3.2	3.4	Yes	12.68	11.36	Yes	-10
Personal care and service.....	3.1	3.2	No	12.01	11.32	Yes	-6
Sales and related.....	10.5	10.9	No	18.59	15.80	Yes	-15
Office and administrative support.....	16.0	15.4	Yes	17.08	16.32	Yes	-4
Farming, fishing, and forestry.....	0.3	0.1	Yes	12.09	13.51	Yes	12
Construction and extraction.....	3.9	4.9	Yes	22.40	19.76	Yes	-12
Installation, maintenance, and repair.....	3.9	4.4	Yes	21.74	21.80	No	0
Production.....	6.6	5.0	Yes	17.06	18.47	Yes	8
Transportation and material moving.....	6.8	6.2	Yes	16.57	17.21	Yes	4

(1) Statistical significance testing at the 90-percent confidence level.

(2) A positive percent difference measures how much the mean wage in Virginia Beach-Norfolk-Newport News is above the national mean wage, while a negative percent difference reflects a lower wage.

With employment of 2,030, all other engineering technicians, except drafters was the largest occupation within the architecture and engineering group, followed by mechanical engineers with 1,780 jobs. Among the higher-paying jobs were aerospace engineers and computer hardware engineers, with mean hourly wages of \$56.12 and \$53.82, respectively. At the lower end of the wage scale were surveying and mapping technicians (\$18.68) and civil engineering technicians (\$23.90). (Detailed occupational data for architecture and engineering are presented in [table 1](#) ; for a complete listing of detailed occupations available go to www.bls.gov/oes/current/oes_47260.htm.)

Location quotients allow us to explore the occupational make-up of a metropolitan area by comparing the composition of jobs in an area relative to the national average. (See [table 1](#) .) For example, a location quotient of 2.0 indicates that an occupation accounts for twice the share of employment in the area as it does nationally. In the Virginia Beach area, above-average concentrations of employment were found in several of the occupations within the architecture and engineering group. For instance, marine engineers and naval architects were employed at more than 19 times the national rate in Virginia Beach, and nuclear engineers at almost 18 times the U.S. average. On the other hand, civil engineers had a location quotient of 1.2 in Virginia Beach, indicating that this particular occupation's local and national employment shares were similar.

These statistics are from the Occupational Employment Statistics (OES) survey, a federal-state cooperative program between BLS and State Workforce Agencies, in this case, the Virginia Employment Commission and the North Carolina Department of Commerce.

Note

OES wage and employment data for the 22 major occupational groups in the Virginia Beach-Norfolk-Newport News Metropolitan Statistical Area were compared to their respective national averages based on statistical significance testing. Only those occupations with wages or employment shares above or below the national wage or share after testing for significance at the 90-percent confidence level meet the criteria.

NOTE: A value that is statistically different from another does not necessarily mean that the difference has economic or practical significance. Statistical significance is concerned with the ability to make confident statements about a universe based on a sample. It is entirely possible that a large difference between two values is not significantly different statistically, while a small difference is, since both the size and heterogeneity of the sample affect the relative error of the data being tested.

Technical Note

The Occupational Employment Statistics (OES) survey is a semiannual mail survey measuring occupational employment and wage rates for wage and salary workers in nonfarm establishments in the United States. Guam, Puerto Rico, and the Virgin Islands are also surveyed, but their data are not included in the national estimates. OES estimates are constructed from a sample of about 1.2 million establishments. Each year, forms are mailed to two semiannual panels of approximately 200,000 sampled establishments, one panel in May and the other in November. May 2014 estimates are based on responses from six semiannual panels collected over a 3-year period: May 2014, November 2013, May 2013, November 2012, May 2012, and November 2011. The overall national response rate for the six panels is 74.3 percent based on establishments and 70.5 percent based on employment. The sample in the Virginia Beach-Norfolk-Newport News Metropolitan Statistical Area included 4,491 establishments with a response rate of 70 percent. For more information about OES concepts and methodology, go to www.bls.gov/news.release/ocwage.tn.htm.

The OES survey provides estimates of employment and hourly and annual wages for wage and salary workers in 22 major occupational groups and 821 detailed occupations for the nation, states, metropolitan statistical areas, metropolitan divisions, and nonmetropolitan areas. In addition, employment and wage estimates for 94 minor groups and 458 broad occupations are available in the national data. OES data by state and metropolitan/nonmetropolitan area are available from www.bls.gov/oes/current/oessrcst.htm and www.bls.gov/oes/current/oessrcma.htm, respectively.

The May 2014 OES estimates are based on the 2010 Standard Occupational Classification (SOC) system and the 2012 North American Industry Classification System (NAICS). Information about the 2010 SOC is available on the BLS website at www.bls.gov/soc and information about the 2012 NAICS is available at www.bls.gov/bls/naics.htm.

Area definitions

The substate area data published in this release reflect the standards and definitions established by the U.S. Office of Management and Budget.

The **Virginia Beach-Norfolk-Newport News, Va.-N.C. Metropolitan Statistical Area** includes Gloucester, Isle of Wight, James City, Mathews, Surry, and York Counties and Chesapeake, Hampton, Newport News, Norfolk, Poquoson, Portsmouth, Suffolk, Virginia Beach, and Williamsburg cities in Virginia and Currituck County in North Carolina.

Additional information

OES data are available on our regional web page at <http://www.bls.gov/regions/mid-atlantic>. Answers to frequently asked questions about the OES data are available at www.bls.gov/oes/oes_ques.htm. Detailed technical information about the OES survey is available in our Survey Methods and Reliability Statement on the BLS website at www.bls.gov/oes/current/methods_statement.pdf. Information in this release will be made available to sensory impaired individuals upon request – Voice phone: 202-691-5200; Federal Relay Service: 1-800-877-8339.

Table 1. Employment and wage data from the Occupational Employment Statistics survey, by occupation, Virginia Beach-Norfolk-Newport News Metropolitan Statistical Area, May 2014

Occupation ⁽¹⁾	Employment ⁽²⁾		Mean wage	
	Level	Location quotient ⁽³⁾	Hourly	Annual ⁽⁴⁾
Architecture and engineering occupations.....	21,440	1.6	\$37.32	\$77,630
Architects, except landscape and naval.....	450	1.0	37.05	77,060
Landscape architects.....	110	1.2	31.16	64,820
Cartographers and photogrammetrists.....	50	0.7	29.86	62,100
Surveyors.....	270	1.2	32.54	67,690
Aerospace engineers.....	930	2.5	56.12	116,720
Biomedical engineers.....	120	1.1	⁽⁵⁾	⁽⁵⁾
Chemical engineers.....	40	0.2	43.90	91,320
Civil engineers.....	1,680	1.2	37.82	78,670
Computer hardware engineers.....	230	0.6	53.82	111,940
Electrical engineers.....	1,560	1.7	39.15	81,440
Electronics engineers, except computer.....	1,010	1.4	43.53	90,530
Environmental engineers.....	430	1.5	41.02	85,310
Health and safety engineers, except mining safety engineers and inspectors.....	130	1.0	37.80	78,620
Industrial engineers.....	920	0.7	41.54	86,400
Marine engineers and naval architects.....	800	19.5	44.67	92,910
Materials engineers.....	90	0.7	51.95	108,060
Mechanical engineers.....	1,780	1.2	41.08	85,440
Nuclear engineers.....	1,600	17.9	38.73	80,550
Engineers, all other.....	1,300	1.9	46.91	97,570
Architectural and civil drafters.....	270	0.6	24.40	50,740
Electrical and electronics drafters.....	140	0.9	26.24	54,580
Drafters, all other.....	⁽⁵⁾	⁽⁵⁾	26.84	55,830
Aerospace engineering and operations technicians.....	⁽⁵⁾	⁽⁵⁾	33.97	70,650
Civil engineering technicians.....	450	1.2	23.90	49,720
Electrical and electronics engineering technicians.....	1,770	2.4	30.57	63,590
Electro-mechanical technicians.....	220	2.8	26.57	55,260
Environmental engineering technicians.....	⁽⁵⁾	⁽⁵⁾	19.14	39,810
Industrial engineering technicians.....	290	0.8	27.52	57,240
Mechanical engineering technicians.....	320	1.3	27.28	56,750
Engineering technicians, except drafters, all other.....	2,030	5.6	35.13	73,060
Surveying and mapping technicians.....	430	1.6	18.68	38,860

(1) For a complete listing of all detailed occupations in the Virginia Beach-Norfolk-Newport News MSA, see www.bls.gov/oes/current/oes_47260.htm.

(2) Estimates for detailed occupations do not sum to the totals because the totals include occupations not shown separately. Estimates do not include self-employed workers.

(3) The location quotient is the ratio of the area concentration of occupational employment to the national average concentration. A location quotient greater than one indicates the occupation has a higher share of employment than average, and a location quotient less than one indicates the occupation is less prevalent in the area than average.

(4) Annual wages have been calculated by multiplying the hourly mean wage by a 'year-round, full-time' hours figure of 2,080 hours; for those occupations where there is not an hourly mean wage published, the annual wage has been directly calculated from the reported survey data.

(5) Estimates not released.